CLAIMS

1. Control apparatus for a door-locking mechanism including an electrically-released latch for locking the door closed, which apparatus comprises:

    — a processing unit having first and second data stream sources
5   and first and second sensing inputs;

    — a first sensor associated with the electrically released latch and which serves to connect the first data stream source to the first sensing input other than when the latch is in its released state;

    — a second sensor associated with the door and which serves to
10 connect the second data stream source to the second sensing input so long as the door remains closed; and

    — a third sensor also associated with the door and which serves to link together one of the first and second data stream sources and the first and second inputs when the door is not closed;

15   — the processing unit being arranged to output a signal indicative of an error condition should the data stream appearing at least at one of the sensing inputs not be the data stream which normally should appear at that input.

2. Control apparatus as claimed in claim 1, wherein the first and second data streams comprise binary data streams, the first and second streams being of different data.

3.   Control apparatus as claimed in claim 2, wherein each of the first and second data streams comprises a repeating string of binary data, the two strings being of the same bit length and bit rate.

4.   Control apparatus as claimed in claim 3, wherein the two data strings comprise different four-bit binary codes.

5.   Control apparatus as claimed in claim 1, wherein processing unit includes a code generator which outputs a digital code dependant upon the detected data streams present at its two sensing inputs.

6.   Control apparatus as claimed in claim 5, wherein the processing unit includes an interface unit which receives the generated code and converts that code to a standardised format for supply to an information bus to which the apparatus is connected.

7.   Control apparatus as claimed in claim 1, wherein the third sensor serves to link together the first and second sensing inputs.

8.   Control apparatus as claimed in claim 1, wherein the first sensor comprises a first switch which is closed so long as the electrically-released latch is in its door-locked position.

9.   Control apparatus as claimed in claim 8, wherein the first switch is a normally-open switch held closed by the electrically-released latch other than when energised.

10.   Control apparatus as claimed in claim 8, wherein the electrically-released latch includes a latch member which co-acts with a part of the door to hold the door closed, the latch member being moved by energisation of a

solenoid to a released position to free the door, operation of the solenoid being

5 controlled by the processing unit.

11. Control apparatus as claimed in claim 10, wherein the first sensor senses the position of the latch member.

12. Control apparatus as claimed in claim 11, wherein the latch member is arranged so that it is mechanically held in its released position on moving the door away from its closed position, irrespective of energisation of the solenoid.

13. Control apparatus as claimed in claim 1, wherein the second sensor comprises a second switch which is closed so long as the door remains closed.

14. Control apparatus as claimed in claim 13, wherein the second switch is a normally-open switch which is held closed by the door, when the door is closed.

15. Control apparatus as claimed in claim 1, wherein the third sensor comprises a third switch which is open so long as the door remains closed.

16. Control apparatus as claimed in claim 15, wherein the third switch is a normally-closed switch which is held open by the door, so long as the door remains closed.

17. Control apparatus for a door-locking mechanism including an electrically-released latch for locking the door closed, which apparatus comprises:

    —   a processing unit having:

(a) first and second data stream sources outputting first and second repeating strings of binary data, the two strings being of the same bit length and bit rate;

(b) first and second sensing inputs for data streams;

(c) a code generator which outputs a digital code dependant upon the data streams present at said two sensing inputs; and

(d) an interface unit which receives the generated digital code and converts that code to a standardised format for supply to an information bus to which the apparatus is connected;

— a normally-open first switch associated with the electrically released latch and which serves to connect the first data stream source to the first sensing input other than when the latch is in its released state;

— a normally-open second switch sensor associated with the door and which serves to connect the second data stream source to the second sensing input so long as the door remains closed; and

— a normally-closed third switch also associated with the door and which serves to link together the first and second inputs when the door is not closed;

— the code generator of the processing unit being arranged to output a digital code indicative of an error condition should the data stream appearing at least at one of the sensing inputs not be the data stream which normally should appear at that input, which digital code is transferred through the interface unit to said information bus.

18.   A method of monitoring the state of a door fitted with an

electrically-released latch which, when energised, allows the door to be

opened, in which method:

–   a processing unit sources first and second data streams and has

5   first and second sensing inputs;

–   the first data stream is connected to the first sensing input by a

first sensor associated with the electrically released latch other than when the

latch is in its released state;

–   the second data stream is connected to the second sensing input

10   by a second sensor associated with the door so long as the door remains

closed; and

–   either the first and second sources or the first and second sensing

inputs are linked together by a third sensor also associated with the door,

whenever the door is not closed;

15   –   the processing unit outputting a signal indicative of an error

condition should the data stream appearing at least at one of the sensing inputs

not be the data stream which normally should appear at that input.

19.   A method as claimed in claim 18, wherein the first and second

data streams comprise binary data streams, the first and second streams being

of different data.

20.   A method as claimed in claim 19, wherein each of the first and

second data streams comprise a repeating string of binary data, the two strings

being of the same bit length.

21.   A method as claimed in claim 20, wherein the two data strings comprise different four-bit binary codes.

22.   A method as claimed in claim 18, wherein the processing unit outputs a digital code which depends upon the detected data streams present at the two sensing inputs.

23.   A method as claimed in claim 22, wherein the digital code which is generated by the processing unit is further processed by an interface unit which receives and converts the generated code to a standardised format for an information bus.